considered very suspicious for cancer if the ratio of choline and creatine to citrate is higher than 3 SDs above the average ratio (equal or higher than 0.86). By using a considerably higher ratio to consider tumor voxel one could expect larger number of false negative.
In our opinion, the association of conventional MRI and 3D-MRSI is very important for the outcome of a patient with prostate cancer.

Reference

1. Jung JA, Coakley FV, Vigneron DB, et al. Endorectal MRSI of the prostate: investigation of a standardized evaluation system. Radiology 2004; 233:701-708.

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UROGENITAL TRAUMA

Predicting Major Hemorrhage in Patients with Pelvic Fracture

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Background: Pelvic fractures can be an important source of major hemorrhage in victims of blunt trauma. However, no rapid and reliable noninvasive method exists for predicting which subjects will have major hemorrhage. The objective of this study is to use information available upon presentation to the trauma center to develop a clinical prediction rule to identify subjects with pelvic fracture who are at high risk of major hemorrhage.
Methods: A retrospective cohort study was performed on all subjects with pelvic fracture from blunt force mechanism at a single level one trauma center during a 4.3 year period. Chart review identified findings from initial pelvic radiographs and from emergency department care including mechanism of injury, and hemodynamic status. Major hemorrhage was defined by angiographic findings, transfusion requirement and pelvic hemorrhage volume. Logistic regression was used to formulate a clinical prediction rule to stratify subjects based on probability of major hemorrhage.
Results: Complete data were available on 627 of 783 eligible subjects. Predictors of major hemorrhage included emergency department hematocrit 30 or less, pulse rate of 130 or greater, displaced obturator ring fracture and pubic symphyseal wide diastasis. Combinations of predictors defined groups with probability of major hemorrhage from 1.6% to 66%.
Conclusions: Probability of major pelvic fracture related hemorrhage can be estimated from initial pelvic radiograph, pulse, and hematocrit.

Editorial Comment

When dealing with pelvic fractures and a hypotensive patient (in shock) it is essential to first determine where the bleeding is coming from, whether from the chest, abdomen or pelvis. Initial methods to determine this are by physical exam, plain films of the pelvis and chest, and FAST scan. When the bleeding source is the pelvis,

bleeding is either from a venous and/or arterial source. Pelvic fractures that increase the volume of the true pelvis can result in massive blood loss. Open book pelvic fractures are examples of potential great blood loss since a small increase in pelvis radius results in a volume increase of radius cubed. Methods to control venous bleeding then are to reduce the pelvic fracture and return the true pelvis to its original size. Such methods to reduce and stabilize pelvic fracture include pelvic binder, C clamp device, pelvic external fixation device, and internally rotating the lower legs and tying them together. For arterial bleeding, embolization of the pelvic vessels via angiography is typically needed.

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Abdominal Computed Tomographic Scan for Patients with Gunshot Wounds to the Abdomen Selected For Nonoperative Management

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Background: Computed tomographic (CT) scanning is increasingly used in patients with abdominal gunshot wounds (AGSWs) selected for nonoperative management (NOM). Triple-contrast CT scanning (i.e., intravenous, oral, and rectal) has produced encouraging initial results. The exact role and usefulness of CT scanning with intravenous contrast only is unknown.
Methods: Hemodynamically stable AGSW patients without generalized abdominal tenderness were offered a trial of NOM, underwent single-contrast (intravenous) CT scanning, and were prospectively followed from July 1, 2002, to May 31, 2004. The sensitivity and specificity of CT scanning to detect organ injuries requiring repair were calculated against the clinical results of NOM. The effect of CT scanning in management was recorded.
Results: One hundred patients with nontangential AGSWs were included. Twenty-six required laparotomy, which was nontherapeutic in five (19%). These five patients underwent operation on the basis of misleading CT findings (n = 3) or development of clinical symptoms (n = 2). Two CT scans were false-negative, and these patients were operated on at 121 and 307 minutes after arrival for hollow visceral injuries and recovered without postoperative complications. Three CT scans were false-positive and resulted in nontherapeutic laparotomies without postoperative complications. The sensitivity and specificity of CT scanning was 90.5% and 96%, respectively. CT findings resulted in a change of management in 40 patients. In nine, the decision to operate was changed to a decision to manage nonoperatively; whereas in eight, the opposite occurred. In addition, in 17, the decision to observe was changed to a decision to discharge; whereas in 1, the opposite occurred. Finally, five patients had additional tests after the findings of CT scanning.
Conclusion: Abdominal CT scanning is a safe and useful method of selecting AGSW patients for NOM. Further exploration is needed to define the precise benefits of routine CT scanning over clinical examination with selective CT scanning.

Editorial Comment

It is well accepted that most blunt trauma to solid organs can be managed effectively by a nonoperative approach. In the past, it was dogma that all penetrating injuries to the abdomen or retroperitoneum required surgical exploration. However, there is mounting evidence that in the properly selected patient, there has been a paradigm shift to an increasing nonoperative or expectant management of penetrating abdominal injuries (where the patient has no peritoneal signs and is hemodynamically stable). Overall, kidney injuries that end up needing surgical exploration is often determined by the mechanism of injury, namely, blunt trauma 2 to 4 %, stab wounds roughly 50%, and gunshot wound roughly 75%. The reason penetrating injuries more commonly require exploration is that the injuries are typically of higher Grade 3 to 5, which more commonly require exploration. Logically, grade for grade, kidney injuries should be teated the same, regardless of the mechanism. Thus, in highly select cases where the kidney is an isolated injury, expectant management can be considered. The proviso being that delayed bleeding may be more common, and secondary procedures such as selective embolization or ureteral stent placement needed in a delayed fashion.

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PATHOLOGY

A Working Group Classification of Focal Prostate Atrophy Lesions

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Focal atrophy is extremely common in prostate specimens. Although there are distinct histologic variants, the terminology is currently nonstandardized and no formal classification has been tested for interobserver reliability. This lack of standardization hampers the ability to study the biologic and clinical significance of these lesions. After informal and formal meetings by a number of the authors, focal atrophy lesions were categorized into 4 distinct subtypes as follows: (i) simple atrophy, (ii) simple atrophy with cyst formation, (iii) postatrophic hyperplasia, and (iv) partial atrophy. In phase 1 of the study, pathologists with varying levels of experience in prostate pathology were invited to view via the Internet a set of "training" images with associated descriptions of lesions considered typical of each subtype. In phase 2 of the study, each participant provided diagnoses on a series of 140 distinct "test" images that were viewed over the Internet. These test images consisted of the 4 subtypes of atrophy and images of normal epithelium, high grade prostatic intraepithelial neoplasia, and carcinoma. The diagnoses for each image from each pathologist were compared with a set of "standard" diagnoses and the kappa statistic was computed. Thirty-four pathologists completed both phases of the study. The interobserver reliability (median kappa) for classification of lesions as normal, cancer, prostatic intraepithelial neoplasia, or focal atrophy was 0.97. The median kappa for the classification of atrophy lesions into the 4